WAG130012 C-4

Annual Report of Operations for Year 2018

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
13-0012

Facility & Owner Information

Facility Name: Bernie Kai Kai Gobin Salmon Hatchery	
Operator Name (Permittee): Tulalip Tribes of Washington	
Address: 6406 Marine Drive Tulalip, WA 98271	
Email: mcrewson@tulaliptribes-nsn.gov	Phone: 360-716-4626
Owner Name (if different from operator): Same	
Email: Same	Phone: Same

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

We revamped our formalin testing process. Conducted formalin testing via test strips and bench chemistry and confirmed we remain well within compliance with discharge limits. Effluent water exiting Chinook, coho and chum incubators while undergoing formalin treatments was tested in three locations each (directly from the incubators, formalin lines leading from underground dilution/retention tanks, and the hatchery effluent lines that receive the formalin dilution tank lines).

ICIS 2/20/19 JR

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 31,563lbs weight gain, 66,309 lbs total biomass

Pounds of food fed to fish during the maximum month:
9,436lbs

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
BY16 Coho	35,545	No release/harvests, fish transferred to 130013 for release. * wt = biomass transferred	N/A
BY17 Chinook	13,006	No release/harvests, fish transferred to 130013 for release. * wt = biomass transferred	N/A
BY17 Coho	7,837	No release/harvest/spawn. * wt is calendar year biomass	N/A
BY17 Chum	8,449	No release/harvests, fish transferred to 130014 for release. * wt = biomass transferred	N/A
BY16 Cutthroat	15,539	Planted 8,839 in Ross Lake (Tulalip Reservation)	N/A

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	39,733	1,924	July	8,291	1,657
February	42,298	3,560	August	12,167	2,497
March	51,195	9,436	September	14,157	3,319
April	55,947	4,838	October	16,726	4,400
May	17,427	6,818	November	16,463	4,180
June	33,967	2,946	December	21,624	1,692

Additional Comments: * Note, NO FISH ARE RELEASED FROM THIS FACILITY (13-0012). ALL SALMON ARE TRANSFERRED TO THE OTHER TWO FACILITIES (13-0013 AND 13-0014) FOR RELEASE. These are total biomass weights and feed fed, which do not relate to each other. The WEIGHT GAINED for these months (not shown) relates to feed fed, which subtracts starting weight at Jan 1 for yearlings or the starting weight of subyearlings ponded in 2018, from their ending weights when transferred (or on December 31st for the new batch of coho to be held over). This is more relevant for the other two facilities, where the weights gained start with the ending weights shown here and are double counted.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
7,200Lb Adult Chum carcasses	December 2018	Offsite burial pit
1,026Lb dead eggs (all 3 species)	Sept. - Dec. 2018	Offsite burial pit
1,625Lb dead fish (all 3 species)	Jan. - Dec. 2018	Offsite burial pit
Additional Comments:		

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
Additional Comments: N/A. No incidents of mass mortality			

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

None

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
None needed		

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☐ No	Azithromycin
■ Yes ☐ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Chlorine
☐ Yes ☐ No	Draxxin
☐ Yes ☐ No	Erythromycin - injectable
☐ Yes ☐ No	Erythromycin - medicated feed
☐ Yes ☐ No	Florfenicol (Aquaflor)
■ Yes ☐ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Herbicide - describe:
☐ Yes ☐ No	Hormone - describe:
☐ Yes ☐ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Oxytetracycline
■ Yes ☐ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Romet
☐ Yes ☐ No	SLICE (emamectin benzoate)
☐ Yes ☐ No	Sodium Chloride - salt
☐ Yes ☐ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Chloramine T		Generic Name: Chloramine T	
Reason for use: Bacterial gill disease			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units) 910gX3,386gX1	Total quantity of formulated product used in past year (specify units): 3,116 grams	
Date(s) of treatment: All in 2018: 4/20, 4/21, 4/22, 5/1			Total number of treatments in past year: 4
Maximum daily volume of treated water: 12,000 gal	Treatment concentration (specify units): 15mg/LX3,20mg/LX1	Duration and frequency of treatment(s): 60 minutes, 1X/day, 4 days total	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ■ Other (describe): * retained and neutralized	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * No discharge
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * Diverted all water to Pond D with no leakage. For the three 910-gram treatments, neutralized by adding 3,640 grams of dissolved sodium thiosulfate and for the 386-gram treatment, added 1544 grams of dissolved sodium thiosulfate (both = 4 parts sodium thiosulfate to 1 part Chloramine -T; Lb:Lb). We then measured total chlorine with a Hach test kit (Model #CN-70) capable of measuring down to 0 mg/L. After each neutralization, there was no measurable chlorine, so the pond water was discharged.			

Brand Name: Potassium Permanganate		Generic Name: Potassium Permanganate	
Reason for use: Gill disease			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 2,796 grams	Total quantity of formulated product used in past year (specify units): 27,690 g	
Date(s) of treatment: All in 2018: 4/26, 4/27, 4/28, 4/29, 5/1, 5/2, 5/3, 5/4, 5/5, 5/6			Total number of treatments in past year: 10 X 2 ponds
Maximum daily volume of treated water: 349,410 gal	Treatment concentration (specify units): 2 mg/L	Duration and frequency of treatment(s): 2 pondsX10 days:10 X 80min,10 X 70min	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Drip treatments over 70 minutes (Pond B) and 80 minutes (Pond D)			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Parasite-S		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on eggs			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): 2.838-8.447 L	Total quantity of formulated product used in past year (specify units): 410.187 liters formalin	
Date(s) of treatment: 56 treatments from 9/15/18-12/28/18			Total number of treatments in past year: 56
Maximum daily volume of treated water: 2,925 gal	Treatment concentration (specify units): 1,667mg/L target*	Duration and frequency of treatment(s): 15 minutes	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ■ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): *Form.retention tanks
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * We did not fill out the flow thru page because we directly measured the maximum concentration in the effluent using two diffrerent methods: 1) Quantofix test strips, and 2) Colorimetric UV/Visible spectrophotometer Amtest method NIOSH 3500, Amtest ID #18A00080. While the target treatment concentration was 1,667 mg/L formalin, testing revealed we were only treating at 140 to 210mg/L formaldehyde (bench test and test strip, respectively; or 378-568 mg/L formalin). Treated and other untreated water entered the formalin settling/dilution tank and came out further diluted to 20-10mg/L formaldehyde (bench and test strip, respectively) = 20-27 mg/L formalin (bench/test strip). The formalin dilution tank line empties into a large effluent pipe that was carrying 1,523.5 gpm. Final concentration discharged from this line was measured to be 0.25-1.0 mg/L formaldehyde (bench test and test strip, respectively) = 0.7-2.7 mg/L formalin.			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

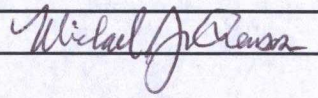
Flow-Through Treatments	
Tank Volume	776,114 Liters
Calculated Flow Rate	10,349 Liters/Minute
Duration of Treatment	80 Minutes
Desired Flow-Through Treatment Concentration of Product	2000 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	21.9 mL/Minute
Total Volume of Product Needed	1,750 grams, 1.75 liters Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 2 mg/liter potassium permanganate Active Ingredient: 2mg/l Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	35,002,600 liters per day Specify Units
Maximum % of Facility Discharge Treated	3.78% % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
None

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed name of person signing	Title
Michael J. Crewson	Salmonid Enhancement Scientist
Applicant Signature 	Date Signed 1/16/19

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140